

AMENDMENTS TO THE CLAIMS

Please cancel claims 1-51 and 71-114 without prejudice or disclaimer. A complete listing of all pending claims is shown below

1-51. (CANCELED)

52. (original) An optical device, comprising:

a convex lens formed with a convex curved face; and

a first optical portion closely contacting the convex curved face of the convex lens, wherein;

the first optical portion has first and second faces facing each other, a concave curved face closely contacting the convex curved face being formed in the first face, and a hole communicating with the second face being formed from a deep side of the concave curved face, and

part of the convex curved face of the convex lens is exposed in the hole of the first optical portion.

53. (original) An optical device as set forth in claim 52, wherein;

the convex lens has a rotationally symmetric or substantially rotationally symmetric shape surrounded or substantially surrounded by a flat surface and the convex curved face facing this flat surface, and

an optical axis of the convex lens or an extension thereof passes through the hole.

54. (original) An optical device as set forth in claim 53, wherein the area around the concave curved face in the first face of the first optical portion is substantially flat and substantially parallel to the flat surface of the convex lens.

55. (original) An optical device as set forth in claim 54, wherein the area around the concave curved face in the first face of the first optical portion is flat or substantially flat and located in an identical plane or substantially identical plane.

56. (original) An optical device as set forth in claim 53, wherein;
the hole has a rotationally symmetric or substantially rotationally symmetric shape,
the rotational symmetry axis of the hole and the optical axis of the convex lens coincide or substantially coincide, and
the concave curved face forms an annular inclined face.

57. (original) An optical device as set forth in claim 53, wherein the material of the convex lens can be made titanium oxide, tantalum oxide, niobium oxide, gallium phosphate, gallium nitride, a compound of titanium, niobium, and oxygen, a compound of titanium, tantalum, and oxygen, or silicon nitride.

58. (original) An optical system comprising first and second optical devices, wherein;

the first optical device has a first convex lens formed with a convex curved face and a first optical portion with the convex curved face of the first convex lens bonded thereto;

the first optical portion has first and second faces facing each other, a concave curved face closely contacting the convex curved face being formed in the first face, and a hole communicating with the second face being formed from a deep side of the concave curved face;

part of the convex curved face of the first convex lens is exposed in the first hole of the first optical portion;

the second optical device has a second convex lens with the convex curved face formed thereon and a third optical portion with the convex curved face of the second convex lens bonded thereto; and

the third optical portion has third and fourth faces facing each other, a concave curved face closely contacting the convex curved face of the second convex lens being formed in the third face, and the first and second optical devices being bonded so that the optical axes of the first and second convex lenses coincide or substantially coincide.

59. (original) An optical system as set forth in claim 58, wherein;

the first convex lens has a rotationally symmetric or substantially rotationally symmetric shape surrounded by the flat surface and the convex curved face facing this flat surface, and

the optical axis of the first convex lens or the extension thereof passes through the first hole.

60. (original) An optical system as set forth in claim 59, wherein;
the second face of the first optical portion is flat or substantially flat and parallel or substantially parallel to the flat surface of the first convex curved face, and
the area around the concave curved face in the first face of the first optical portion is flat or substantially flat and parallel or substantially parallel to the flat surface of the first convex lens.

61. (original) An optical system as set forth in claim 59, wherein;
the second face of the first optical portion is substantially flat and substantially parallel to the flat surface of the first convex curved face, and
the area around the concave curved face in the first face of the first optical portion is flat or substantially flat and located in the identical plane or substantially identical plane to the flat surface of the first convex lens.

62. (original) An optical system as set forth in claim 59, wherein;
the first hole has a substantially rotationally symmetric shape with respect to the optical axis,
the rotational symmetry axis of the first hole and the optical axis of the first convex lens coincide or substantially coincide, and
the concave curved face of the first optical portion forms an annular inclined face.

63. (original) An optical system as set forth in claim 62, wherein;
in the third optical portion, a second hole communicating with the fourth face is formed from the deep side of the concave curved face closely contacting the convex curved face of the second convex lens, and
part of the convex curved face of the second convex lens is exposed in the second hole of the third optical portion.

64. (original) An optical system as set forth in claim 63, wherein;
the second convex lens has a rotationally symmetric or substantially rotationally symmetric shape surrounded by the flat surface and the convex curved face facing this flat surface, and
the optical axis of the second convex lens or the extension thereof passes through the second hole.

65. (original) An optical system as set forth in claim 64, wherein;
the fourth face of the third optical portion is flat or substantially flat and parallel or substantially parallel to the flat surface of the second convex curved face, and
the area around the concave curved face in the third face of the third optical portion is flat or substantially flat and parallel or substantially parallel to the flat surface of the second convex lens.

66. (original) An optical system as set forth in claim 64, wherein;

the fourth face of the third optical portion is flat or substantially flat and parallel or substantially parallel to the flat surface of the second convex curved face, and

the area around the concave curved face in the third face of the third optical portion is flat or substantially flat and located in the identical plane or substantially identical plane to the flat surface of the second convex lens.

67. (original) An optical system as set forth in claim 66, wherein;

the second hole has a rotationally symmetric or substantially rotationally symmetric shape with respect to the optical axis,

the rotational symmetry axis of the second hole and the optical axis of the second convex lens coincide or substantially coincide, and

the concave curved face of the third optical portion forms an annular inclined face.

68. (original) An optical system as set forth in claim 66, wherein the material of the first and/or second convex lens is titanium oxide, tantalum oxide, niobium oxide, gallium phosphate, gallium nitride, a compound of titanium, niobium, and oxygen, a compound of titanium, tantalum, and oxygen, or silicon nitride.

69. (original) An optical system as set forth in claim 66, wherein;

the first convex lens is larger than the second convex lens,

the first face of the first optical portion and the fourth face of the third optical portion are bonded, and

a solid immersion lens is comprised by the first and second optical devices.

70. (original) An optical system as set forth in claim 66, wherein the material of the third optical portion is aluminum oxide or silicon oxide.

71-114. Canceled